REMARKS/ARGUMENTS

1. Introduction

This is a full and timely response to the Office action of May 19, 2008. No claims are amended and rationale differentiating current claims over known references is presented. No new material has been introduced. The applicant respectfully requests continued examination of claims 1-34.

2. Claim rejections

Claims 1-3, 12-15, 23-26, 29, and 32-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakaya (US 7006571 B1, hereinafter referred to as "6571"). Claims 4 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakaya (US 7006571 B1, hereinafter referred to as "6571"). Claims 5-8, 16-19, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakaya (US 7006571 B1, hereinafter referred to as "6571") as applied to claims 1-4, 12-15, 23-26, and 29 above, and further in view of Nakaya et al. (US 20010050957 A1, hereinafter referred to as "50957"). Claims 9, 20, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakaya (US 7006571 B1, hereinafter referred to as "6571") and Nakaya et al. (US 20010050957 A1, hereinafter referred to as "50957") as applied to claims 1-8, 12-19, 23-26, and 29-31 above, and further in view of Srinivasan (US 20030202607 A1). Claims 10-11, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakaya (US 7006571 B1, hereinafter referred to as "6571") as applied to claims 1-4, 12-15, 23-26, and 29 above, and further in view of Hagiwara (US 20040223550 A1).

3. Response

Concerning all claims, the applicant respectfully disagrees with the Examiner that Nakaya (6571) is anticipatory for at least the reason that claimed structures and functions are not taught, suggested, or motivated in the references.

For example, the Examiner recites Col.13, lines 56-61 of Nakaya (6571) as anticipating the claimed interpolation unit because "the images are synthesized relative to the previously decoded images". For the record, Col.14, line 54 – Col.15, line 8 describes the Examiner cited Fig.11 in nearly the same words "The global motion compensation predicted image 903 is synthesized in the global motion compensation predicted image synthesizer 911" and "The block matching predicted image 906 is synthesized in the block matching predicted image synthesizer 1101". Therefore, because not specifically stated, it is assumed that the Examiner for purposes of rejection of claims likens the "global motion compensation predicted image synthesizer 911" and "block matching predicted image synthesizer 1101" to the claims interpolation unit.

Then the Examiner recites from Col.15, lines 2-8 and Fig.11 of Nakaya 6571 suggesting that the switch 908 selects from the output of the "global motion compensation predicted image synthesizer 911" or "block matching predicted image synthesizer 1101" for output and therefore anticipates the claimed multiplexer.

With this understanding, one of the clear structural differences between Nakaya 6571 and the present claims is that Nakaya 6571 outputs synthesized images from the "interpolator" to the "multiplexer" while the present claims specifically state that the multiplexer outputs a selected motion vector to the interpolator which then synthesizes the image. Claim 1 comprises the specific limitations of "an interpolation unit for performing interpolation operations on each macroblock contained in each frame of the incoming video stream; and **a multiplexer selecting an inputed macroblock motion vector or an inputted global motion vector and outputting the selected macroblock motion vector or the selected global motion vector to the interpolation unit**".

The physical arrangement and connections of the "interpolator" and "multiplexer" in Nakaya 6571 are not the same as in the present claims and therefore does not anticipate all

claim limitations as required under 35 U.S.C. 102(e) (MPEP 2131, *Verdegaal Bros. V. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)).

Furthermore, the structural differences between Nakaya 6571 and the present claims are not obvious to overcome. Because the "global motion compensation predicted image synthesizer 911" or "block matching predicted image synthesizer 1101" of Nakaya 6571 respectively require different motion vectors which have been demultiplexed from the motion information 702, it makes absolutely no sense for one skilled in the art to even consider reversing the arrangement of multiplexer and interpolators because after the respective motion vectors 904 and 907 have been extracted from the motion information 702, there is absolutely no need for a multiplexer to send the correct motion vector to the correct image synthesizer as can be seen in Fig.11.

It is noted that claims (including 13-23) specifically limit the **use of a single interpolation unit** to perform the interpolation operations according to the macroblock motion vector or according to the global motion vector depending on how the specific macroblock has been encoded and that the **utilized global motion vector is in a form substantially identical to that of the macroblock motion vector**.

The use of a single interpolation unit is clear from the specification ([0026], drawings (Fig.3), and the antecedent based claim language, and also defines structure. On the other hand, Nakaya 6571 always requires the use of two specialized "interpolation units" (such as 911 and 1101, Fig.11), one (911) using the global motion vector (904) and one (1101) using the macroblock motion vector (907) (Col.14, line 58 – Col.15, line 2).

The reason Nakaya 6571 requires two specialized "interpolation units" (such as 911 and 1101, Fig.11) arises from there being a known difference in form between block matching motion vectors and global motion vectors, making them non-interchangeable

within the interpolation unit.

As described in Paragraph [0025] of the present application, one embodiment works around the "vectors of different form problem" by translating global motion parameters into a global motion vector for luminance and a global motion vector for chrominance which can be used at the macroblock level during interpolation. This translation of global motion parameters into a form that can be used at the macroblock level is what allows the embodiment to reduce costs and complexity by requiring only a single interpolation unit to process images using the selected transformed global motion vectors as well as the macroblock motion vector.

Nakaya 6571 teaches and requires two specialized "interpolation units", and with good reason. Even if one of the "interpolation units" is removed and a switch is introduced without motivation between the demultiplexer and the sole remaining interpolation unit (Fig.11), Nakaya 6571 would fail to function as intended, if at all, because of the differences in types of motion vectors as one skilled in the art would readily appreciate. As the Examiner is aware, a modifications which cause a reference to fail to function as intended not only fails to meet the requirements of 35 U.S.C. 102(e), but are also well known to be considered unobvious (MPEP 2143.01, *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984))

4. Summary

The applicant has shown that all claimed structures have not been anticipated by known references, specifically at least the limitations of using a multiplexer to selectively route appropriate motion vectors to a single interpolation unit for processing.

The claimed limitation provides a real world difference of requiring only a single interpolation unit to decode frames regardless whether global motion compensation or

matching block compensation was used during the encoding process, saving costs and complexity.

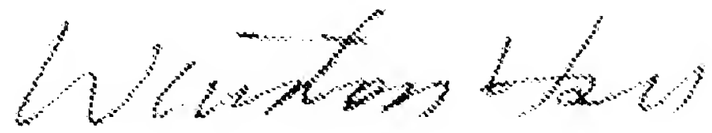
The applicant has provided USPTO procedural citations and Federal Court verdicts supporting the arguments that known references fail both structurally and functionally to anticipate claims. Should the Examiner disagree with the arguments, it is respectfully requested that detailed reasoning as to why the arguments are considered invalid be presented in the written record.

Although merely in effort to speed prosecution the specific above arguments are directed primarily at defending independent claims, and therefore all claims via dependencies, the applicant in no way is conceding that any unanswered rejections assertions are valid, and maintains any and all rights of rebuttal to all issues raised in this Office action pending results of this response.

For at least the reason that the allowability of dependent claims ultimately depends upon the allowability of their respective base claims, and the respective base claims have been shown to differ structurally and functionally from known references and are now believed to be allowable by the applicant, all dependent claims are also believed to be allowable. Therefore, reconsideration of claims 1-34 is respectfully requested.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,



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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)